

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,314,350 B2  
APPLICATION NO. : 10/616499  
DATED : January 1, 2008  
INVENTOR(S) : Brown

Page 1 of 6

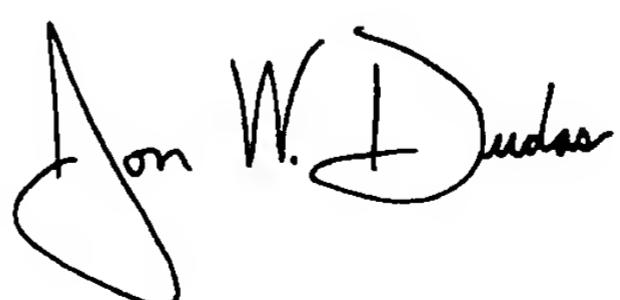
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete Title page illustrating a figure(s), and substitute therefor, new Title page illustrating a figure(s). (attached)

Delete drawing sheets 1-4, and substitute therefor drawing sheets 1-4. (attached)

Signed and Sealed this

Thirteenth Day of May, 2008



JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(12) United States Patent  
Brown(10) Patent No.: US 7,314,350 B2  
(45) Date of Patent: Jan. 1, 2008(54) ENERGY STORE CIRCUIT FOR  
CONTROLLING ROTOR ROTATION

4,500,821 A	2/1985	Bitting et al.	318/254
4,535,275 A	8/1985	Müller	318/254
4,618,803 A *	10/1986	Hardy	315/241 R
4,751,398 A	6/1988	Ertz, III	307/66
5,619,076 A	4/1997	Layden et al.	307/48
6,388,392 B1 *	5/2002	Flory, IV	315/291
6,709,111 B2 *	3/2004	Hino et al.	353/52
7,137,015 B2	11/2006	Su	713/300

(75) Inventor: Fred A. Brown, Coronado, CA (US)

(73) Assignee: Comair Rotron, Inc., San Diego, CA  
(US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 562 days.

(21) Appl. No.: 10/616,499

(22) Filed: Jul. 9, 2003

## (65) Prior Publication Data

US 2004/0036431 A1 Feb. 26, 2004

## Related U.S. Application Data

(60) Provisional application No. 60/417,827, filed on Oct. 11, 2002, provisional application No. 60/397,694, filed on Jul. 22, 2002.

(51) Int. Cl.  
F04B 49/06 (2006.01)

(52) U.S. CL ..... 417/44.1; 417/44.11; 417/411

(58) Field of Classification Search ..... 417/44.1,  
417/44.11; 411; 310/72, 68 R; 318/794,  
318/795, 796

See application file for complete search history.

## (56) References Cited

## U.S. PATENT DOCUMENTS

3,841,746 A	10/1974	Chase et al.	353/15
4,494,055 A	1/1985	Bitting et al.	318/254
4,499,408 A	2/1985	Bitting et al.	318/254

## FOREIGN PATENT DOCUMENTS

JP	01123419	5/1989
JP	403052575 A	3/1991
JP	406098479 A	4/1994
JP	10197952	7/1998
JP	H11-231419	8/1999
JP	2000021457 A	1/2000

\* cited by examiner

Primary Examiner—Anthony Stashick

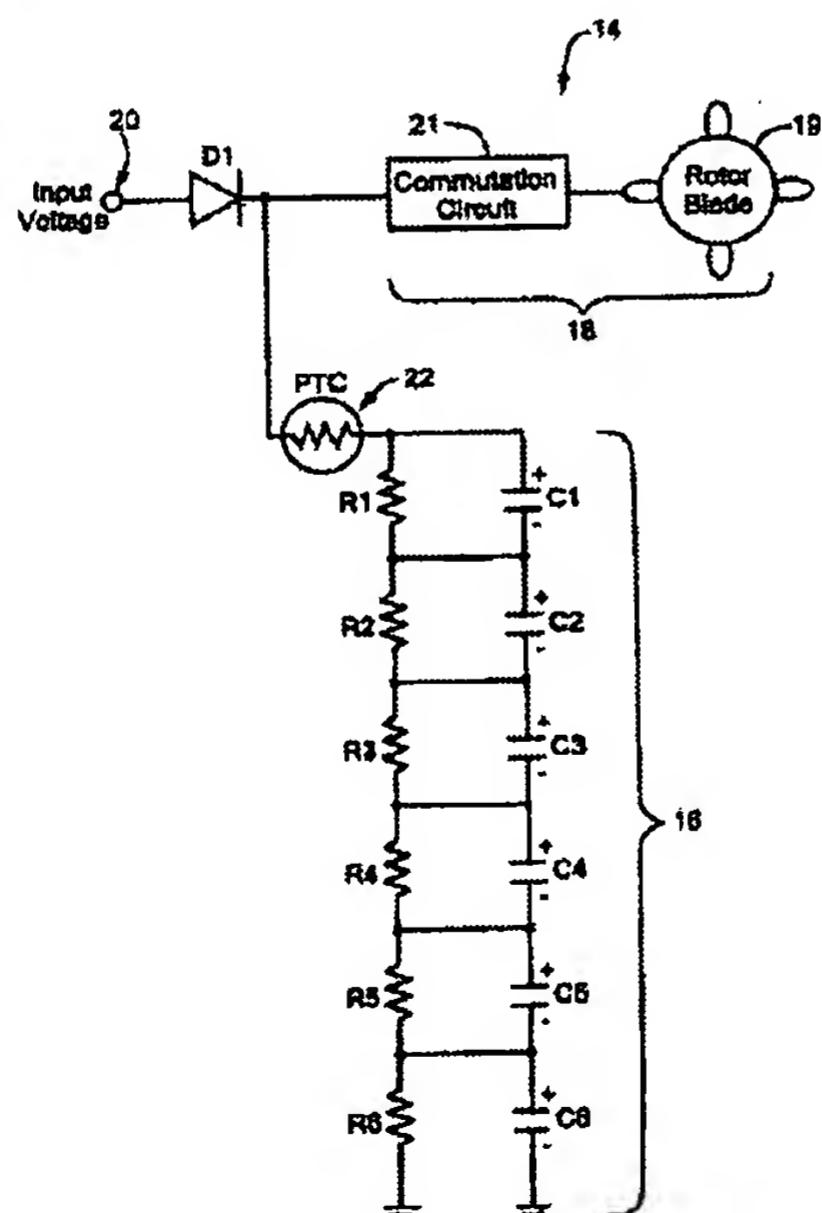
Assistant Examiner—Vikansha Dwivedi

(74) Attorney, Agent, or Firm—Bromberg &amp; Sunstein LLP

## (57) ABSTRACT

A fan controller for controlling the rotation of a rotor (with a fan blade) has a current limiting element to control current flow to a capacitive storage apparatus. More specifically, the fan controller has an input for receiving an input voltage, the noted capacitive storage in electrical communication with both rotor circuitry (that controls rotor rotation) and the input, and the noted current limiting element coupled between the input and the capacitive storage. The rotor circuitry is energizable by the input voltage, while, in a similar manner, the capacitive storage is capable of charging by receiving current from the input. The current limiting element at least in part controls current flow from the input to the capacitive storage.

27 Claims, 4 Drawing Sheets



U.S. Patent

Jan. 1, 2008

Sheet 1 of 4

7,314,350 B2

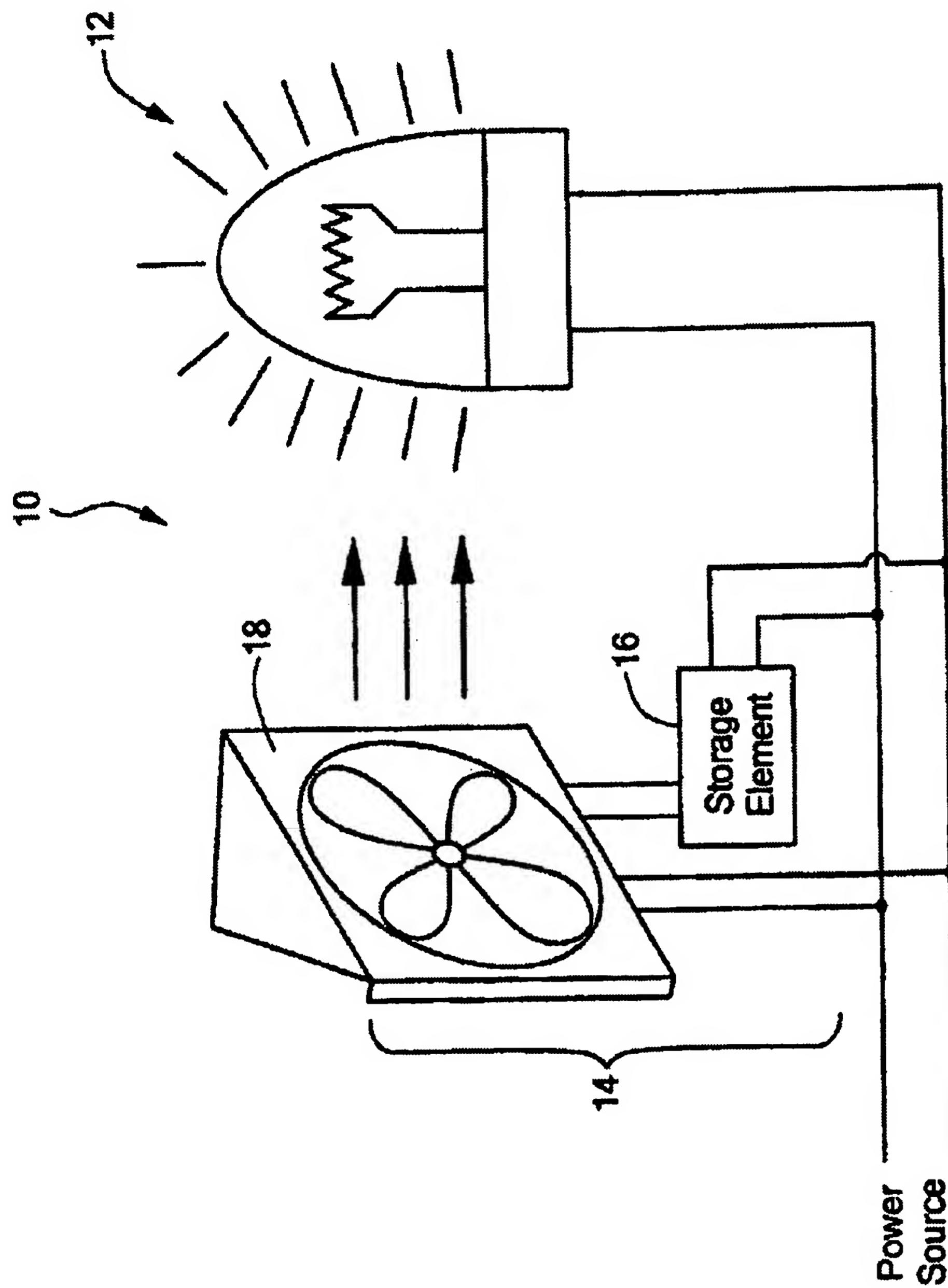


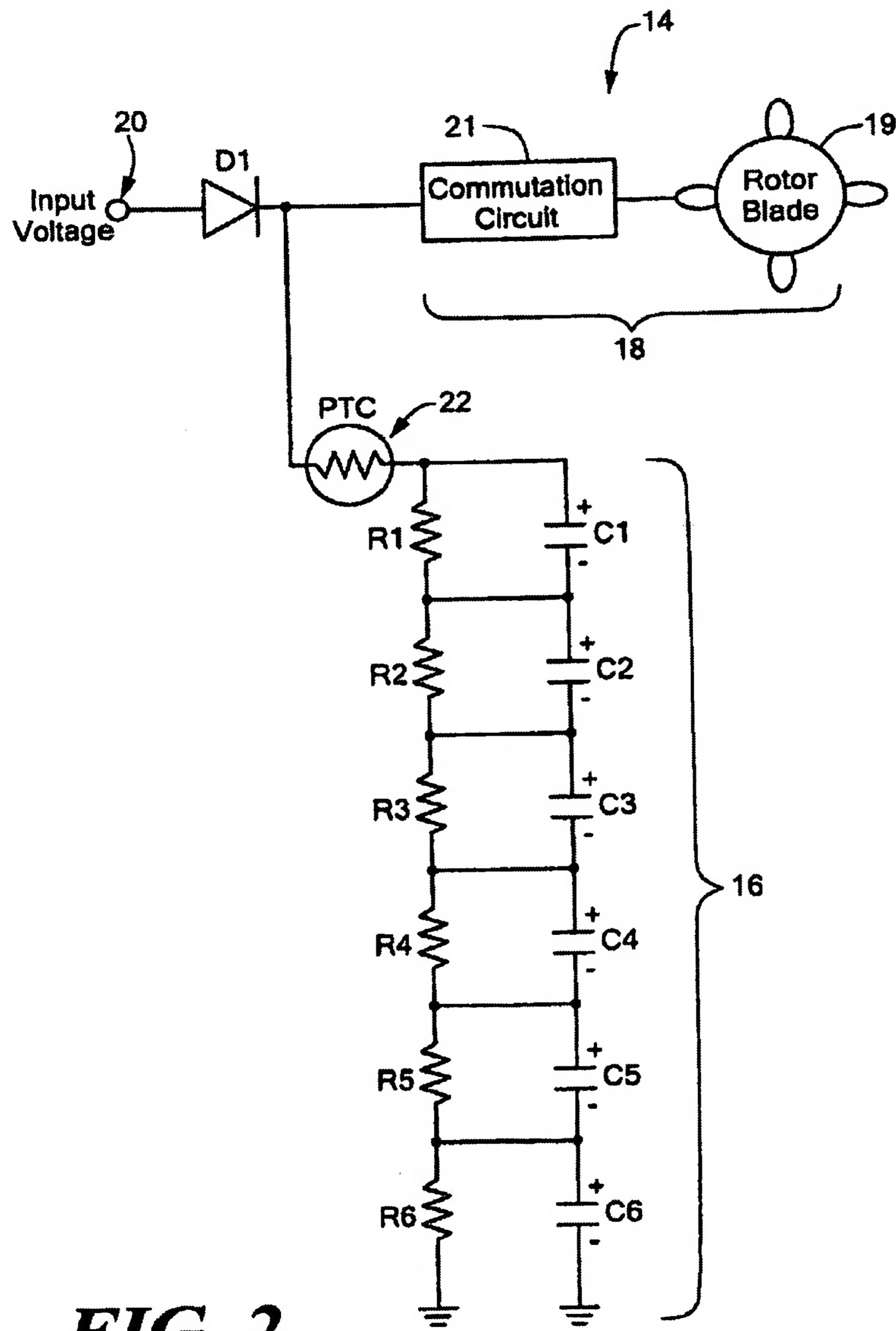
FIG. 1

U.S. Patent

Jan. 1, 2008

Sheet 2 of 4

7,314,350 B2

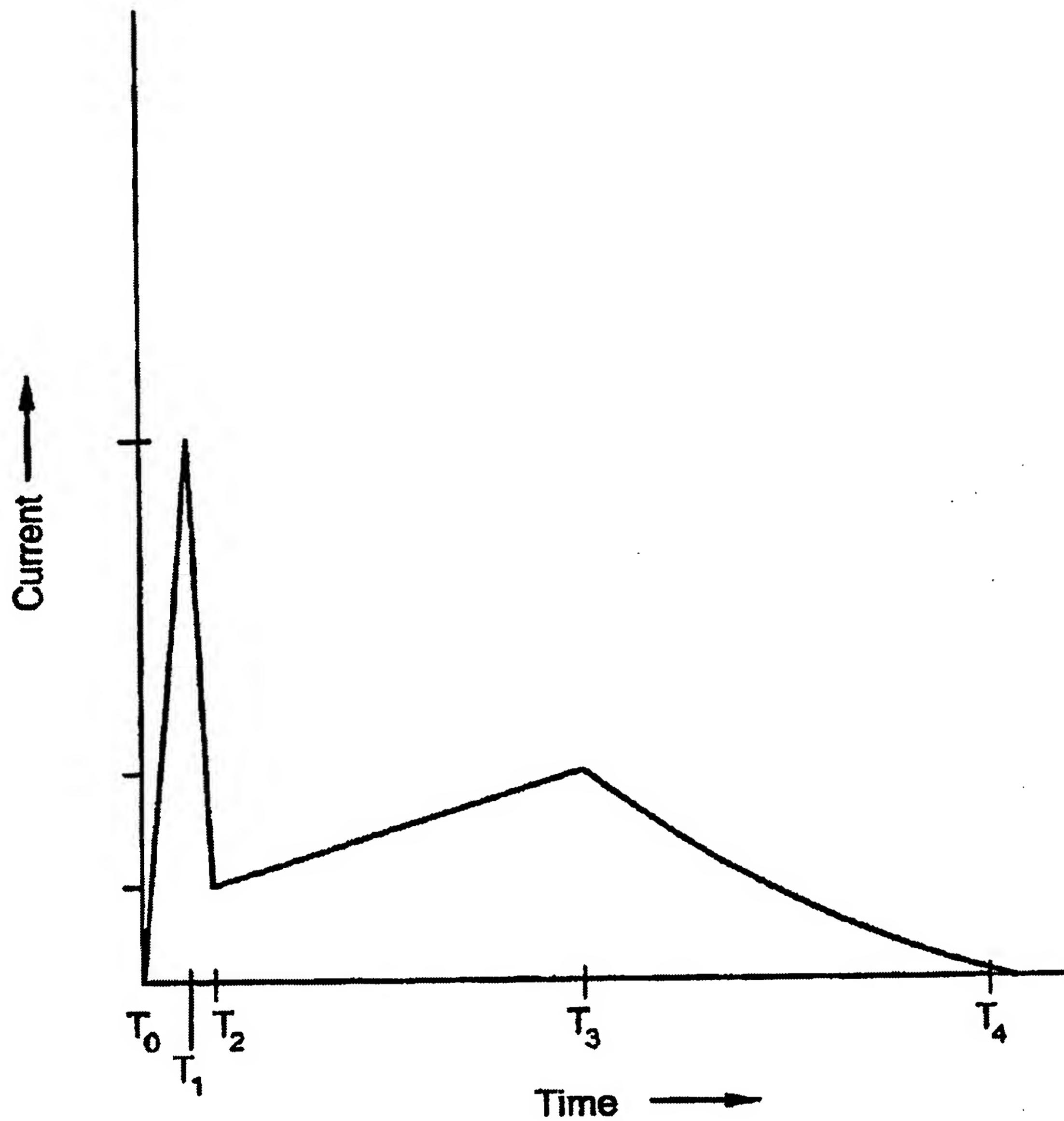
**FIG 2**

U.S. Patent

Jan. 1, 2008

Sheet 3 of 4

7,314,350 B2



**FIG. 3**

U.S. Patent

Jan. 1, 2008

Sheet 4 of 4

7,314,350 B2

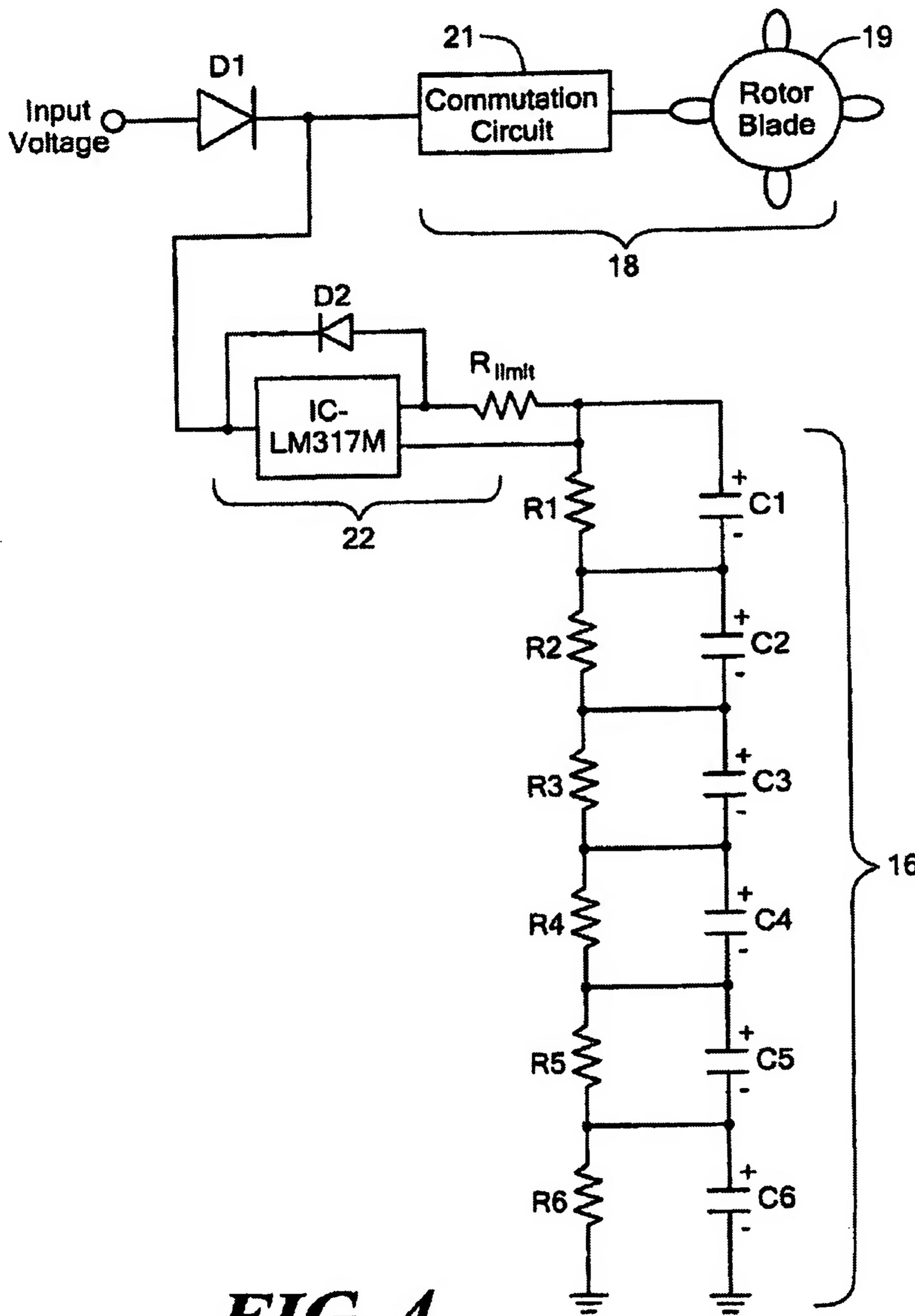


FIG. 4